

IN THE CLAIMS

Please amend the claims as follows:

1-34. (Canceled)

35. (New) An apparatus, comprising:

at least one ingress port to receive packets from external sources;

a plurality of egress ports to receive the packets from the at least one ingress port and forward the packets to external destinations; and

a processor to maintain continuous aggregate per egress port counts for the at least one ingress port;

wherein the packets have an associated flow based on at least source and destination of the packets and the flow of the packets is controllable, wherein the packets are stored in flow controllable queues while awaiting forwarding from the at least one ingress port and the packets are stored in the flow controllable queues based on the associated flow of the packets rather than egress ports associated with the packets; and

wherein the aggregate per egress port count for an egress port includes packets having a flow that is associated with the egress port and is eligible for forwarding, wherein the aggregate per egress port count for each egress port is updated to account for changes to the flow controllable queues associated therewith as the changes occur rather than summing a count for each flow controllable queue associated therewith.

36. (New) The apparatus of claim 35, wherein the continuous aggregate per egress port counts are at least one factor used to determine a next queue to transmit data from.

37. (New) The apparatus of claim 35, wherein each egress port has a plurality of flow controllable queues associated therewith.

38. (New) The apparatus of claim 35, wherein a packet is associated with an egress port if the packet will be handled by the egress port as part of the flow.

39. (New) The apparatus of claim 35, wherein a packet is eligible for forwarding if the associated flow is enabled.

40. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port count for a specific egress port to add a packet queued to a flow controllable queue associated with the specific egress port.

41. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port count for a specific egress port to subtract a packet dequeued from a flow controllable queue associated with the specific egress port.

42. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port count for a specific egress port to remove packets within a flow controllable queue associated with the specific egress port when flow associated with the flow controllable queue switches to disabled.

43. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port count for a specific egress port to add packets within a flow controllable queue associated with the specific egress port when flow associated with the flow controllable queue switches to enabled.

44. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port counts and the flow controllable queue counts coherently.

45. (New) The apparatus of claim 35, wherein the processor updates the aggregate per egress port counts each clock cycle to account for changes during the clock cycle.

46. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count based on packets being queued to or dequeued from associated flow controllable queues and associated flow controllable queues having a change in flow status.

47. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by adding a packet queued in a first flow controllable queue associated with the specific egress port and subtracting a packet dequeued from a second flow controllable queue associated with the specific egress port.

48. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by adding a packet queued in a first flow controllable queue associated with the specific egress port, and adding packets contained within a second flow controllable queue associated with the specific egress port when flow associated with the second flow controllable queue switches to enabled.

49. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by adding a packet queued in a first flow controllable queue associated with the specific egress port, and subtracting packets contained within a second flow controllable queue associated with the specific egress port when flow associated with the second flow controllable queue switches to disabled.

50. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by subtracting a packet dequeued in a first flow controllable queue associated with the specific egress port, and adding packets contained within a second flow controllable queue associated with the specific egress port when flow associated with the second flow controllable queue switches to enabled.

51. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by subtracting a packet dequeued in a first flow controllable queue associated with the specific egress port, and subtracting packets contained

within a second flow controllable queue associated with the specific egress port when flow associated with the second flow controllable queue switches to disabled.

52. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by adding a packet queued in a first flow controllable queue associated with the specific egress port, subtracting a packet dequeued from a second flow controllable queue associated with the specific egress port, and adding packets contained within a third flow controllable queue associated with the specific egress port when flow associated with the third flow controllable queue switches to enabled.

53. (New) The apparatus of claim 45, wherein the processor updates the aggregate per egress port count for a specific egress port by adding a packet queued in a first flow controllable queue associated with the specific egress port, subtracting a packet dequeued from a second flow controllable queue associated with the specific egress port, and subtracting packets contained within a third flow controllable queue associated with the specific egress port when flow associated with the third flow controllable queue switches to disabled.

54. (New) The apparatus of claim 53, wherein if the third flow controllable queue is same as the first flow controllable queue, the second flow controllable queue or both the aggregate per egress port count for the specific egress port need not add a packet queued, subtract a packet dequeued, or add a packet queued and subtract a packet dequeued respectively.

55. (New) A method, comprising:
receiving packets from external sources at an ingress port, wherein the packets have an associated flow based on at least source and destination of the packets and the flow of the packets is controllable;
storing the packets in flow controllable queues based on the associated flow of the packets rather than an egress port associated with the packets;
maintaining a continuous aggregate per egress port count for the ingress port, wherein the aggregate per egress port count for an egress port includes packets having a flow that is

associated with the egress port and is eligible for forwarding, wherein the aggregate per egress port count for the egress port is updated to account for changes to the flow controllable queues associated therewith as the changes occur rather than summing a count for each flow controllable queue associated therewith;

selecting a queue to forward packets from based at least in part on the aggregate per egress port count; and

forwarding a packet from the selected queue to an appropriate egress port.

56. (New) The method of claim 55, wherein each egress port has a plurality of flow controllable queues associated therewith, and wherein a packet is associated with an egress port if the packet will be handled by the egress port as part of the flow.

57. (New) The method of claim 55, wherein a packet is eligible for forwarding if the associated flow is enabled.

58. (New) The method of claim 55, wherein said maintaining includes updating the aggregate per egress port count each clock cycle to account for changes during the clock cycle.

59. (New) The method of claim 58, wherein said maintaining includes updating the aggregate per egress port count based on packets being queued to or dequeued from associated flow controllable queues and associated flow controllable queues having a change in flow status.

60. (New) The method of claim 55, wherein maintaining includes updating the aggregate per egress port counts and flow controllable queue counts coherently.

61. (New) A store and forward device comprising:
a plurality of high-speed LAN protocol cards to receive, store, and transmit packets, wherein the plurality of high-speed LAN protocol cards include a plurality of ingress ports, a plurality of egress ports, and a plurality of queues; wherein the packets have an associated flow based on at least source and destination of the packets and the flow of the packets is controllable,

wherein the packets are stored in flow controllable queues while awaiting forwarding from the ingress ports, and wherein the packets are stored in the flow controllable queues based on the associated flow of the packets rather than egress ports associated with the packets;

a processor to maintain continuous aggregate per egress port counts for the ingress ports, wherein the aggregate per egress port count for an egress port includes packets having a flow that is associated with the egress port and is eligible for forwarding, wherein the aggregate per egress port count for the egress port is updated to account for changes to the flow controllable queues associated therewith as the changes occur rather than summing a count for each flow controllable queue associated therewith;

a backplane to connect the plurality of high-speed LAN protocol cards together; and

a scheduler to determine a next queue to service based at least in part on the aggregate per egress port counts.

62. (New) The device of claim 61, wherein the processor updates the aggregate per egress port counts and the flow controllable queue counts coherently.

63. (New) The device of claim 61, wherein the processor updates the aggregate per egress port counts each clock cycle to account for changes during the clock cycle.

64. (New) The device of claim 61, wherein the processor updates the aggregate per egress port count based on packets being queued to or dequeued from associated flow controllable queues and associated flow controllable queues having a change in flow status.

65. (New) An apparatus, comprising:

a plurality of flow controllable queues to store packets therein while awaiting forwarding;
and

a processor to maintain continuous aggregate per egress port counts for the plurality of flow controllable queues;

wherein the packets have an associated flow that is controllable, and wherein the packets are stored in the flow controllable queues based on the associated flow of the packets rather than egress ports associated with the packets; and

wherein the aggregate per egress port count for an egress port is updated to account for changes to the flow controllable queues associated therewith as the changes occur rather than summing a count for each flow controllable queue associated therewith.

66. (New) The apparatus of claim 65, wherein the aggregate per egress port count for an egress port includes packets having a flow that is associated with the egress port and is eligible for forwarding.

67. (New) The apparatus of claim 65, wherein the processor updates the aggregate per egress port counts each clock cycle to account for changes during the clock cycle.

68. (New) The apparatus of claim 65, wherein the processor updates the aggregate per egress port count based on packets being queued to or dequeued from associated flow controllable queues and associated flow controllable queues having a change in flow status.